

What is claimed is:

1. A steam generator comprising:
 - a housing;
 - a tubular vessel located within the housing;
 - a heating element located within the tubular vessel;
 - a water inlet configured to allow water to enter the tubular vessel; and
 - a steam outlet configured to outlet steam from the tubular vessel and housing.
2. The steam generator of claim 1, further comprising a flange on one end of the tubular vessel configured receive fasteners for attaching the tubular vessel to the housing.
3. The steam generator of claim 2, further comprising a silicone O ring seal configured to seal the flange to housing.
4. The steam generator of claim 1, further comprising a valve configured to regulate an amount of water applied to the water inlet wherein the valve is located outside the housing.
5. The steam generator of claim 1, further comprising a thermostat configured to monitor a temperature associated with the heating element and further configured to turn off the heating element when the reaches a predetermined temperature.

6. The steam generator of claim 5, wherein the predetermined temperature is slightly above the boiling point of water.
7. The steam generator of claim 5, wherein the thermostat automatically turns back on the heating element when the temperature associated with the heating element goes below a predetermined temperature.
8. The steam generator of claim 5, wherein the thermostat senses the temperature associated with the heating element at a top portion of the heating element.
9. The steam generator of claim 1, further comprising piping configured to deliver water to the water inlet and a drain valve located at a low point in the piping configured to selectively permit the piping to be drained.
10. The steam generator of claim 1, further comprising an overflow pipe configured to drain at least of water and steam from the tubular vessel when a pressure in the tubular vessel exceeds a predetermined limit.
11. The steam generator of claim 10, further comprising a pressure sensor and a valve configured to sense a pressure within the tubular member and open the valve to provide fluid communication between an interior of the tubular member and an area outside the housing when the pressure exceeds the predetermined limit.

12. The steam generator of claim 10, wherein the overflow pipe provides fluid communication between an interior of the tubular vessel and a reservoir located outside the housing.

13. The steam generator of claim 1, further comprising a variable mounting bracket configured to attach to the housing at any two of a bottom, side, end, and top portion of the housing and further configured to attach to a mounting surface for mounting the steam generator.

14. The steam generator of claim 1, wherein the steam generator is located within a test chamber and configured to humidify the test chamber.

15. The steam generator of claim 1, further comprising:

a reservoir external to the housing, but in fluid communication to the tubular vessel via the inlet by piping extending through the housing and connected to the inlet; and

a float valve configured to regulate an amount of water coming into the reservoir.

16. The steam generator of claim 15, wherein the reservoir and tubular vessel are located with respect to each other to cause a water level both the reservoir and tubular to equalize with each other.

17. The steam generator of claim 1, further comprising a water level control device located in the tubular vessel configured to at least one of inlet more water to the tubular vessel and turn off the heating element when a water level in the tubular vessel falls below a minimum level.

18. A steam generator comprising:

a housing;

a steam chamber located within the housing;

a heating element located within the steam chamber;

a water inlet configured to allow water to enter the steam chamber;

a steam outlet configured to outlet steam from the steam chamber and housing;

a vessel located external to the steam chamber having an interior reservoir in fluid communication with the steam chamber such that a liquid level in the reservoir and a liquid level in the steam chamber with seek to achieve substantially the same level; and

a valve associated with the vessel configured to regulate a liquid flow from an external source into the reservoir to achieve a desired liquid level in the reservoir.

19. A steam generator comprising:

means for containing a fluid;

means for converting contained water to steam located in the containing

means;

means for inletting water into the containing means;

means for outletting a fluid from the containing means located on the containing means; and

means for storing water, at a level approximately equal to a level of water in the containing means located outside the containing means in fluid communication with the containing means.

20. The steam generator of claim 19, wherein the fluid containing means is tubular.

21. A method of generating steam comprising the steps of:

providing a chamber configured to contain a fluid;

inletting water into the chamber from a reservoir external from the chamber;

controlling an amount of water let into the reservoir;

substantially equalizing a water level in the reservoir with a water level in the chamber;

heating the water in the chamber to turn at least some of the water into steam; and

venting at least some of the steam out of the chamber.

22. A gas generator comprising:

a housing;

a tubular vessel located within the housing;

a heating element located within the tubular vessel;

a fluid inlet configured to allow a fluid to enter the tubular vessel; and

a fluid outlet configured to outlet a fluid from the tubular vessel and
housing.